

What is claimed is:

1 1. A method of deciding whether to perform link adaptation for
2 communication from a first communication device to a second
3 communication device, the second communication device examining a
4 signal received from the first communication device and providing
5 a first indication of the quality of the signal as received by
6 the second communication device, the method comprising the steps
7 of:

8 a) recording at least one first indication of the quality of the
9 signal as received by the second communication device;

10 b) providing a second indication of the quality of the signal
11 based on the at least one first indication of the quality of the
12 signal; and

13 c) deciding to perform link adaptation based on the second
14 indication of the quality of the signal.

1 2. The method of claim 1, wherein the first indication of the
2 quality of the signal as received by the second communication
3 device is either an SIR estimate, or an ACK/NACK signal, or an
4 FER or BLER or corresponding statistic collected over a
5 predetermined time period.

1 3. The method of claim 1, wherein the second indication of the
2 quality of the signal as received by the second communication
3 device is either an SIR target value, a changed SIR target value,
4 an ACK/NACK signal, or a signal derived from a series of
5 consecutive ACK/NACK signals.

1 4. The method of claim 3, wherein the decision to perform link
2 adaptation is based on whether the SIR target is to be changed to

3 a value that is within some predetermined margin of a
4 predetermined maximum or minimum SIR target.

1 5. The method of claim 3, wherein a succession of SIR target
2 change commands are recorded, and further wherein the decision to
3 perform link adaptation is based on whether a predetermined
4 number of consecutive SIR target change commands are all either
5 to increase the SIR target or to decrease the SIR target.

1 6. The method of claim 3, wherein a succession of SIR target
2 change commands are recorded, and further wherein the decision to
3 perform link adaptation is based on whether a predetermined
4 fraction of a predetermined number the SIR target change commands
5 are either to increase the SIR target or to decrease the SIR
6 target.

1 7. The method of claim 1, wherein the first communication device
2 is selected from the group consisting of a mobile station and a
3 base station and the second communication device is the other
4 device in the group consisting of a mobile station and a base
5 station.

1 8. The method of claim 1, wherein the first communication device
2 or the second communication device perform one or more of the
3 steps of recording at least one first indication of the quality
4 of the signal, providing a second indication of the quality of
5 the signal, and deciding to perform link adaptation.

1 9. The method of claim 1, wherein an RNC performs one or more of
2 the steps of recording at least one first indication of the
3 quality of the signal, providing a second indication of the
4 quality of the signal, and deciding to perform link adaptation.

1 10. The method of claim 1, wherein the signal for which the
2 indication of the quality of the signal as received by the second
3 communication device is used as a basis for a link adaptation
4 decision is different from, but associated with, the signal for
5 which the link adaptation decision is made.

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1 11. An apparatus for deciding whether to perform link adaptation
2 for communication from a first communication device to a second
3 communication device, the second communication device examining a
4 signal received from the first communication device and providing
5 a first indication of the quality of the signal as received by
6 the second communication device, the apparatus comprising:

7 a) means for recording at least one first indication of the
8 quality of the signal as received by the second communication
9 device;

10 b) means for providing a second indication of the quality of the
11 signal based on the at least one first indication of the quality
12 of the signal; and

13 c) means for deciding to perform link adaptation based on the
14 second indication of the quality of the signal.

1 12. The apparatus of claim 11, wherein the first indication of
2 the quality of the signal as received by the second communication
3 device is either an SIR estimate, or an ACK/NACK signal, or an
4 FER or BLER or corresponding statistic collected over a
5 predetermined time period.

1 13. The apparatus of claim 11, wherein the second indication of
2 the quality of the signal as received by the second communication
3 device is either an SIR target value, a changed SIR target value,

4 an ACK/NACK signal, or a signal derived from a series of
5 consecutive ACK/NACK signals.

1 14. The apparatus of claim 13, wherein the decision to perform
2 link adaptation is based on whether the SIR target is to be
3 changed to a value that is within some predetermined margin of a
4 predetermined maximum or minimum SIR target.

1 15. The apparatus of claim 13, wherein a succession of SIR
2 target change commands are recorded, and further wherein the
3 decision to perform link adaptation is based on whether a
4 predetermined number of consecutive SIR target change commands
5 are all either to increase the SIR target or to decrease the SIR
6 target.

1 16. The apparatus of claim 13, wherein a succession of SIR
2 target change commands are recorded, and further wherein the
3 decision to perform link adaptation is based on whether a
4 predetermined fraction of a predetermined number the SIR target
5 change commands are either to increase the SIR target or to
6 decrease the SIR target.

1 17. The apparatus of claim 11, wherein the first communication
2 device is selected from the group consisting of a mobile station
3 and a base station and the second communication device is the
4 other device in the group consisting of a mobile station and a
5 base station.

1 18. The apparatus of claim 11, wherein the first communication
2 device or the second communication device includes one or more of
3 the means for recording at least one first indication of the
4 quality of the signal, means for providing a second indication of

5 the quality of the signal, and means for deciding to perform link
6 adaptation.

1 19. The apparatus of claim 11, wherein an RNC includes one or
2 more of the means for recording at least one first indication of
3 the quality of the signal, means for providing a second
4 indication of the quality of the signal, and means for deciding
5 to perform link adaptation.

1 20. The method of claim 11, wherein the signal for which the
2 indication of the quality of the signal as received by the second
3 communication device is used as a basis for a link adaptation
4 decision is different from, but associated with, the signal for
5 which the link adaptation decision is made.

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